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## Knowledge on insulin therapy

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### Abstract

Insulin is necessary for normal carbohydrate protein and fat metabolism. People with type 1 diabetes mellitus do not produce enough of this hormone. The aim of the present study was to assess the knowledge regarding insulin therapy among staff nurses and nursing students in Narayana Medical College Hospital, Nellore. A descriptive method was used and sample of 30 nursing students and 30 staff nurses was selected using non probability convenience sampling technique. Structured questionnaire was used to collect data from the sample. Collected data was analyzed using descriptive and inferential statistics. Results revealed that regarding level of knowledge among 30 staff nurses and 30 student nurses, in that 6 (20%) staff nurses 10 (33.3%) nursing students are having adequate level of knowledge. The study concluded that majority of student nurses have adequate knowledge regarding insulin therapy when comparing to the level of knowledge of staff nurses regarding insulin therapy.

**Keywords:** Carbohydrate metabolism, insulin hormone, diabetes mellitus, insulin therapy

### Introduction

Diabetes mellitus is a chronic disease characterized by either deficiency of insulin or decreased ability of the body to use glucose. This affects the metabolism of carbohydrates, proteins, fats, water and electrolytes. Diabetes mellitus called the silent killer disease. Now it is recognized as one of the faster growing threats to public health in almost all countries of the world. It is also called the disease of prosperity, globally around 360 million people have diabetes in 2013; by 2030 this will raised to 522 million.

To sustain life and therefore depend on exogenesis insulin for survival in contrast individual with type 2 diabetes are not dependent on exogenous insulin. Therefore supplemental insulin is required for adequate blood glucose control especially during times of stress or illness.

Insulin injections have become a long way since they were first used to treat diabetics in the 1920 are different types of insulin to meet each uses individual but also different way to injected insulin. In 1997-2011, the percentage of use of insulin therapy in the pills is 50.3%, in the injections is 17.8% and both used is 13%.

### Need For Study

Modupe O, Oyetunde (2015) A study conducted between March to April, survey performed to diabetic patient towards insulin therapy in several diabetic centers and hospital in Khartoum state. The intensive and data collection by administered insulin therapy the data was analysis using statistical for social science. The total 385 patients with type1 and type 2 Diabetics mellitus treated with insulin participated in study 80% of study participants injecting insulin in the subcutaneous tissue of thigh and upper arm 19.2% they used of insulin.

Kaur H, Sharma K (2014) A study conducted on the early intensive insulin therapy patients to improve beta cell function to extend glycemic remission. The infusions are as multiple daily insulin injections. They enrolled from nine centers. The most patients achieved target glycemic control in the insulin groups 97.1% (133 of 137) in with oral hypoglycemic agents are 83.5%.

### Statement of Problem

A study to assess the knowledge regarding insulin therapy among staff nurses and nursing students at Narayana Medical College Hospital Nellore.

**Objectives**

- To assess the level of knowledge regarding insulin therapy among staff nurses.
- To assess the level of knowledge regarding insulin therapy among nursing students.
- To compare the level knowledge between staff nurses and nursing students regarding insulin therapy

**Hypothesis**

There will be statically significant level of association between level of knowledge & demographic variables.

**Methodology**

**Research Approach**

A quantitative research approach was adopted.

**Research Design**

The non experimental descriptive design was adopted for the present study.

**Setting of the Study**

The study was conducted in Narayana medical College Hospital which is 10 km distance from Nellore. It has super specialties with well-equipped infrastructure and a bed capacity of 1750 with the 700 nurses working in all various departments. Study was conducted in all surgical wards. The bed strength of the surgical ward is about 240 and staff strength in medical ward is 23. All the nursing students of B. Sc (N), GNM and P.B. BSc (N) are posted in NMCH.

**Population**

The target population for the present study includes all staff nurses and nursing students in the Narayana Super speciality Hospital and NNI.

**Sample**

Staff nurses including both males and female staff nurses who are working in the surgical wards and nursing students of III B.Sc (N) in NMCH and NNI at Nellore.

**Sample Size**

The sample size is 30 staff nurses who are working in surgical ward, 30 nursing students of III B.Sc (N) NNI at Nellore.

**Sample Technique**

Non probability convenient sampling technique was adopted for the study.

**Sampling Criteria**

**Inclusion Criteria:** the staff nurses, who are,

- Working in NMCH.
- Willing to participate in the study of insulin therapy in staff nurses.
- III B.Sc nursing students.

**Exclusion Criteria**

- The staff nurses, who are on leave/ vacation, sick at time of data collection

**Description of Tool**

The help of extensive review from various text books journals and the internet sources, the tool was developed to assess the knowledge regarding use of insulin therapy among staff nurses.

**The tool divided in to two parts as follows**

**Part-I:** Socio demographic variables such as age, gender, educational qualification, Total professional experience in ward, previous knowledge.

**Part-II:** Self structured questionnaire.

It describe the self-structured questionnaire to assess the knowledge regarding insulin therapy among staff nurses and nursing student consisting of 30 closed multiple choice questions which was developed by the investigation.

**Scoring Key**

The tool consists of 30 items each right answer scores ‘1’ mark and wrong answer scores ‘0’ marks.

**Scoring Interpretation**

**Table 1:** Level of Knowledge

S No	Level Of Knowledge	Percentage
1	Inadquate Knowledge	>50%
2	Modrate Adequate Knowledge	50-70%
3	Adequate Knowledge	70%

**Pilot Study**

Pilot study was conducted in NMCH after obtaining formal permission from the Director, Narayana Medical College Hospital Nellore. Samples were selected by using convenience sampling technique. Data was collected from staff nurses who are working surgical wards and nursing students of III B.Sc nursing at, NNI Nellore. Structured Questionnaires were used to assess the level of knowledge. It is found feasible to conduct the study.

**Data Collection Procedure**

The main study has been carried out after obtaining formal permission from the Medical Superintendent and Nursing Superintendent in Narayana Medical College Hospital Nellore. Informed consent was obtained from the subjects after explaining the purpose and nature of study. A sample of 30 staff nurses and 30 nursing students who fulfil inclusion criteria were selected by using non probability convenience sampling technique. Data was collected by using structured questionnaire to assess the knowledge regarding insulin therapy among staff nurses and nursing students. It took 30 minutes for each sample to complete the questionnaire.

**Data Analysis**

The data was been analyzed by using descriptive and inferential statistics.

**Results**

**Major findings of the study reveal,**

1. In respect to the level of knowledge on insulin therapy among staff nurses and student nurses knowledge scores are as follows 20%; 33.3% have adequate knowledge, 53.3%; 40% have moderately adequate and 26.7%; 26.7% have inadequate knowledge on insulin therapy respectively.
2. With regard to the comparison of level of knowledge on insulin therapy staff nurses mean is 16.9 and standard deviation is 4.41 whereas in nursing student mean is 18.7 and standard deviation is 3.80

**Discussion**

**The first objective of the study was to assess knowledge regarding insulin therapy among staff nurses.**

**Table 2:** frequency and percentage distribution of level of knowledge regarding insulin therapy among staff nurses.

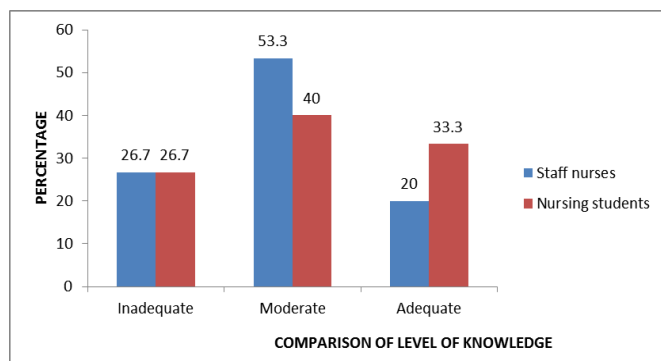
Level of Knowledge	Staff Nurses	
	Frequency (f)	Percentage (%)
In adequate	8	26.7
Moderately adequate	16	53.3
Adequate	6	20
Total	30	100

Table No: 2 Shows that regarding level of knowledge regarding insulin therapy among staff nurses, 8 (26.7%) of staff nurses have inadequate knowledge, 16 (53.3%) staff nurses have got moderately adequate knowledge and 6 (20%) of staff nurses have got adequate knowledge on insulin therapy.

**Table 4:** Comparison of level of knowledge regarding insulin therapy between staff nurses and nursing students. (N=60)

Category	Level of Knowledge					
	Inadequate		Moderately Adequate		Adequate	
	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
Staff nurses	8	26.7	16	53.3	6	20
Nursing students	8	26.7	12	40	10	33.3

Table No.4 Shows that regarding level of knowledge among 30 staff nurses and 30 student nurses, in that 8 (26.7%) staff nurses and 8 (26.7%) nursing students are having inadequate level of knowledge, 16 (53.3%) staff nurses and 12 (40%) nursing students are having moderately adequate level of knowledge, 6 (20%) staff nurses 10(33.3%) nursing students are having adequate level of knowledge.



**Fig 1:** Percentage distribution of comparison of level of knowledge on insulin therapy.

**Table 5:** Comparison of mean and standard deviation of knowledge scores among staff nurses and nursing students. (N=60)

Category	Mean	Standard deviation
Staff nurses	16.9	4.41
Student nurses	3.80	3.80

Table no 5: Shows that mean and standard deviation of nursing are 16.9 & 4.41 and mean & standard deviation of nursing students 18.7&3.80 respectively.

**The second objective of the study was to assess knowledge regarding insulin therapy among nursing students.**

**Table 3:** frequency and percentage distribution of level of knowledge regarding insulin therapy among nursing students.

Level of Knowledge	Nursing Students	
	Frequency (f)	Percentage (%)
In adequate	8	26.7
Moderately adequate	12	40
Adequate	10	33.3
Total	30	100

Table No: 3 Shows that regarding level of knowledge 4(26%) nursing students have in adequate knowledge 6(40%) nursing students have moderate adequate knowledge 5 (33.3%) have adequate knowledge regarding insulin therapy.

**The third objective of the study is to compare level of knowledge regarding insulin therapy between staff nurses and nursing students.**

**Conclusion**

The study concluded that majority of student nurses have adequate knowledge regarding insulin therapy when comparing to the level of knowledge of staff nurses regarding insulin therapy.

**Recommendations**

- Study can be conducted to assess knowledge on insulin therapy among type 2 diabetes mellitus patients.
- Same study can be replicated using large sample
- Same study can be done on community settings

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